IN THE CLAIMS

1. (currently amended) An imaging apparatus comprising:

a drum for mounting an IR sensitive printing member on a surface thereof, said drum being capable of rotating about a longitudinal axis thereof to affect interline exposure of said printing member with the information representing said image;

a plurality of IR laser diodes, each coupled to a corresponding optical fiber, the optical fibers are aligned at a distance from an exposure surface of the IR sensitive printing member and providing an output light beam; and

a stationary telecentric lens assembly which operates to image said output light beam onto said exposure surface;

whereby a lateral distance between first and second exposure spots of the output light beam on the exposure surface is invariant with a change in the distance of the optical fibers from the exposure surface, wherein the change in the distance of the optical fibers from the exposure surface is within a predetermined range.

2. (original) The imaging apparatus of claim 1 wherein the output numerical aperture of said lens assembly is smaller than 0.45.

3. (currently amended) The imaging apparatus of claim 1 wherein the output numerical aperture of said optical fibers ~~lens assembly~~ is smaller than 0.15.

4. (original) The imaging apparatus of claim 2 wherein changes in the distance between said exposure surface and said aligned optical fibers are compensated within a range of 60 microns.

5. (original) The imaging apparatus of claim 2 wherein changes in the distance between said exposure surface and said aligned optical fibers are compensated within a range of 60 microns and the intensity of said laser diodes is at least 0.5 Watt.

6. (original) The imaging apparatus of claim 1 and further comprising an intensity changer attached to each said laser diodes.

7. (original) The imaging apparatus of claim 6 wherein said intensity changer includes a current changer for changing the current of each laser diode during exposure.

8. (original) The imaging apparatus of claim 7 wherein changes in the distance between said exposure surface and said aligned optical fibers are compensated within a range of 40 microns, whereby a total range of compensation of 100 microns is achieved.

9. (previously presented) The imaging apparatus of claim 1 characterized in a light spot of about 20 microns on said exposure surface and a power density exceeding 0.6 megawatt per squared inch on said exposure surface.

10. (original) An imaging apparatus for recording an image on a printing member comprising a light source providing an output light beam and an optical assembly which operates to image said output light beam onto an exposure surface of said printing member characterized in a light spot of about 20 microns on said exposure surface and a numerical aperture smaller than 0.45.

11. (currently amended) A method for controlling the spot size of an imaging apparatus comprising:

a drum for mounting an IR sensitive printing member on a surface thereof, said drum being capable of rotating about a longitudinal axis thereof to affect interline exposure of said printing member with the information representing said image,

a plurality of IR laser diodes each coupled to a corresponding optical fiber, the optical fibers being ~~are~~ aligned at a distance from an exposure surface of the IR sensitive printing member and providing an output light beam, and

a stationary telecentric lens assembly which operates to image said output light beam onto said exposure surface, the method comprising the steps ~~step~~ of:

selectively varying during exposure the intensity of said laser diodes so as to reduce or increase a ~~the~~ spot size of the output light beam resulting thereby; and

imaging said output light beam onto said exposure surface, whereby a lateral distance between first and second exposure spots of the output light beam on the exposure surface is invariant with a change in the distance of the optical fibers from the exposure surface, wherein the change in the distance of the optical fibers from the exposure surface is within a predetermined range.

12. (original) The method of claim 11 wherein said selectively varying during exposure comprises selectively varying the current provided to said laser diodes.

13. (original) The method of claim 12 wherein said selectively varying the current comprises pre-exposure calibration of said laser diodes power and on the flight determination of the actual current to be provided to each said laser diode during exposure.

14. (original) The method of claim 13 wherein said pre-exposure calibration comprises:

mapping the variations in location of the drum surface with respect to said aligned optical fibers; and

defining a correction function between said variations in location and said laser diodes intensity.

15. (original) The method of claim 13 wherein said on the flight determination comprises:

providing a location on said drum surface; and

employing said correction function to determine a correction factor so as to correct the intensity of said laser diode.

16. (currently amended) The method of claim 13 ~~12~~ wherein said pre-exposure calibration comprises:

mapping the variations in dot percentage of a referenced exposure on said drum surface; and

defining a correction function between said variations in location and said laser diodes intensity.

17. (original) The method of claim 15 wherein said on the flight determination comprises:

providing a location on said drum surface and its current dot percentage; and

employing said correction function to determine a correction factor so as to correct the intensity of said laser diode.

18. (original) The method of claim 11 wherein the spot size is about 20 microns.

19. (currently amended) A system for exposing a printing member with a pattern representing an image to be printed comprises:

a drum for mounting an IR sensitive printing member on a surface thereof, said drum being rotating about a longitudinal axis thereof to affect interline exposure of said printing member with the information representing said image;

an imaging apparatus comprising a plurality of modulateable IR laser diodes, each coupled to a corresponding optical fiber, the optical fibers are aligned at a distance from said printing member and providing an output light beam and a stationary telecentric lens assembly which operates to image said output light beam onto an exposure surface of said printing member so as to record the information representing said image thereon; and

moving apparatus attached to said imaging apparatus, said moving apparatus being generally parallel to the longitudinal axis of said drum so as to affect intraline exposure of said printing member;

whereby a lateral distance between first and second exposure spots of the output light beam on the exposure surface is invariant with a change in the distance of the optical fibers from the exposure surface, wherein the change in the distance of the optical fibers from the exposure surface is within a predetermined range.